

Mr. Steve Mulkey
The Premcor Refining Group, Inc.
8182 Maryland Avenue
St. Louis, Missouri 63105

Dear Mr. Mulkey:

Re: Exempt Construction and Operation Status,
141-13844-00200

The application from The Premcor Refining Group, Inc., received on January 26, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following facility, to be located at Clark Service Station # 0448, 2322 South Michigan Avenue, South Bend, Indiana, is classified as exempt from air pollution permit requirements:

- (a) Groundwater remediation system. This system includes an air stripper, which has a maximum capacity of 40 gallons per minute (gpm) of water and 280 cubic feet per minute (cfm) of air flow.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) Any change or modification which may increase the potential VOC emissions to 10 tons per year or more from the equipment covered in this exemption must be approved by the Office of Air Management (OAM) before such change may occur.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - St. Joseph County
St. Joseph County Health Department
Air Compliance -Rick Reynolds
Northern Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: The Premcor Refining Group, Inc.
 Source Location: Clark Service Station # 0448
 2322 South Michigan Avenue, South Bend, Indiana
 County: St. Joseph
 SIC Code: 5541
 Operation Permit No.: 141-13844-00200
 Permit Reviewer: Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from The Premcor Refining Group, Inc. relating to the construction and operation of a groundwater remediation system. This system includes an air stripper, which has a maximum capacity of 40 gallons per minute (gpm) of water and 280 cubic feet per minute (cfm) of air flow.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on January 26, 2001.

Emission Calculations

- (a) Groundwater Remediation Emissions:
- | | | |
|-----------------------|---|----------------------------------|
| Maximum Capacity | - | 40 gallons per minute |
| Maximum Air Flow Rate | - | 280 actual cubic feet per minute |

Data from the Pilot Testing:

Chemical Name	Concentration in H ₂ O (ppm)	Concentration in H ₂ O (µg/l)	Molecular Weight (lb/lb-mole)	Emissions (tons/yr)
Benzene	3.7	3,700	78.12	0.33
Toluene	2.5	2,500	92.15	0.22
Ethylbenzene	0.420	420	106.18	0.04
Xylene	1.87	1,870	106.18	0.17
Total		8,490		0.76

Methodology:

HAPs Emissions (tons/yr) = concentration, $\mu\text{g/l}$ * 3.875 l/gal * 1 gram/1 x $10^6 \mu\text{g}$ * 1 lb/454 grams * capacity, gpm * 60 min/hr * 8760 hr/yr * ton/2000 lb

Gasoline - 100 percent VOC
 HAPs (BTEX) - HAPs comprises 20% of gasoline

VOC Emissions = $\frac{0.76 \text{ tons of HAPs/yr}}{0.20}$
 = 3.73 tons/yr

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO ₂	0.0
VOC	3.73
CO	0.0
NO _x	0.0

HAP's	Potential To Emit (tons/year)
Benzene	0.33
Toluene	0.22
Ethylbenzene	0.04
Xylene	0.17
Single Worst HAP	0.33
Combined HAPs	0.76

- (a) The new source is exempted from permitting approval, pursuant 326 IAC 2-1.1-3, since no regulated pollutant from the entire source exceeds the emissions threshold required to have a registration or permit under this article.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	maintenance attainment
CO	attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) St. Joseph County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	0.0
PM10	0.0
SO ₂	0.0
VOC	3.73
CO	0.0
NO _x	0.0
Single HAP	0.33
Combination HAPs	0.76

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

- (a) 326 IAC 2-7 (Part 70 Permit Program)
This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:
 - (1) each criteria pollutant is less than 100 tons per year,
 - (2) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
 - (1) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) New Source Performance Standards
There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) National Emission Standards for Hazardous Air Pollutants
There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

- (a) 326 IAC 2-6 (Emission Reporting)
Although the source is located in St. Joseph County, which is one of the counties listed in rule, it is not subject to 326 IAC 2-6 (Emission Reporting), because it does not have the potential to emit more than ten (10) tons of VOC per year.
- (b) 326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

- (a) 326 IAC 8-1-6 (General Reduction Requirements)
This rule is not applicable to the groundwater remediation facility, because it does not have the potential VOC emissions of 25 tons per year.
- (b) 326 IAC 8 (Volatile Organic Sources)
There is no rule in 326 IAC 8 that is applicable to the proposed groundwater remediation facility, because it does not fit any of the source categories mentioned in the rules.
- (c) 326 IAC 2-4.1-1 (Major Sources of Hazardous Air Pollutants (HAP))
This rule is not applicable to the proposed groundwater remediation facility, because it is not major for single HAP nor for combined HAPs.

Conclusion

The construction and operation of this groundwater remediation system shall be subject to the conditions of the attached **Exemption 141-13844-00200**.